

DEER Website User's Guide

The Database for Energy Efficiency Resources (DEER) is a California Public Utilities Commission (CPUC) and California Energy Commission (CEC) sponsored database designed to provide well documented estimates of energy and peak demand savings values, measure costs, and effective useful life (EUL) available all within one data source. The users of the data are intended to be program planners, regulatory reviewers and planners, utility and regulatory forecasters, and consultants supporting utility and regulatory research and evaluation efforts. The database is designed to be both an internet searchable tool as well as being available as a downloadable database.

This guide provides a brief overview on how to use the DEER website, describes the available data, and provides example queries to demonstrate its operation. The user should remember that new information is always becoming available and that this data represents the best information found at a specific point in time. It is expected that this database will be updated on a periodic basis.

1.1 Key Data Considerations

There are over 130,000 unique records representing over 360 unique measures within the DEER dataset. Where appropriate, measure information is available for 16 different California climatic zones, 36 different building types or SIC classifications, five building vintages for single family, multifamily, and nonresidential, and four bulding vintages for mobile homes.

The Glossary, which is available as a separate download, provides a brief description of each variable contained within the database. The user should download this Glossary and be familiar with the codes and data structure. However, there are some key elements that need to be emphasized. These include:

- Customer baseline vs. code baseline
- Energy common units vs. cost common units
- Application and cost basis

1.1.1 Customer Baseline vs. Code Baseline

The impact from an energy efficiency measure can be calculated in two ways depending if there are any energy-related Codes or Standards affecting the installation of those measures. The California Building Energy Code, Title 24, and the Federal Appliance Standards are

examples of specific codes and standards that can affect what baseline should be used to estimate energy and demand impacts. How an energy efficiency program is designed and implemented will affect which baseline is the more appropriate baseline to utilize.

Within the database, specifically within the detailed measure information page as illustrated in Figure 8, the user will find references to variables with the word “Customer” in front of them and others that have the word “Code” in front of them. These two sets of variable information identify the baseline technology description, baseline energy use and demand, and efficiency measure impacts. The set of “Customer” described variables refer to a baseline that is an estimate of the currently installed technology within the home or business. The set of “Code” described variables refer to a baseline where minimum mandated code requirement efficiency must be considered before estimating the measure impacts.

Which set of impacts (customer or code) to use is dependent on how the user wants to use the data or how the planner wants to design a program. An energy forecaster is likely interested in “Customer” based impacts for existing buildings and “Code” based impacts for new construction. A program planner’s use of the data will depend on program design. DEER recognizes three types of measure applications:

- Replace on Burnout (ROB): equipment is replaced only when it no longer functions.
- Retrofit (RET): equipment is either added, such as a photocell control to a lighting system, or is replaced before the useful life of the existing equipment is over, such as early replacement of fully functional refrigerators.
- New Construction (NEW): Higher efficiency equipment is installed rather than standard, less efficient equipment in a new construction, alteration, or renovation project. An assumption is made that the less efficient, standard equipment meets current applicable codes requirements.

The ROB and NEW program applications would generally utilize the “Code” based impacts while “RET” would utilize the “Customer” based impacts. Note that these are general guidelines and exceptions may exist: for example some early replacements retrofit cases may trigger code compliance and hence “Code” based estimates need to be used for these “RET” cases. Many of the non-weather sensitive measures do not have “Customer” based impacts. This is because the non-weather sensitive measure impacts were developed during Phase 1 of this update and only minimal modifications were funded under this current Phase 2 effort. The data development mandate at that time was to utilize a “Code” baseline in all cases unless there was no code or standard in place for the technology. Future DEER updates will likely expand the number of non-weather sensitive “Customer” based estimates.

1.1.2 Energy Common Units vs. Cost Common Units

The energy impacts and the cost estimates were developed by two separate teams under separate contracts and the results merged through this DEER update so as to provide a single complete set of information. In past DEER versions, there was no direct connection between the energy impact portion of the database and the cost portion. This lack of connection limited the usefulness of these past versions of DEER and it was among the goals of this update to provide as much linkage as possible between the energy and cost elements of the database.

For most measures (over 90%), the common units for the energy impacts and the associated measure costs are the same. This common unit is identified by the “Common Unit Name” variable. If the cost common unit is the same as the energy common unit, it is identified as so within the “Cost Application” variable by the wording “-same” at the end of the “Cost Basis” variable. If the cost common unit is different, then this wording is changed to reflect the cost common unit. As an example of this, measure ID D03-911 is high efficiency water heater in non-residential building. For this measure, the energy common unit is “1000 sqft building” while the cost common unit is the “water heater tank”. The cost common unit is indicated as being different within the “Cost Basis” variable by the wording “-WtrHtr” at its end.

In addition to identifying if the cost common units are different from the energy common units, the “Cost Basis” variable is used to define for each measure the appropriate cost that should be utilized by the user. Two types of “Cost Basis” values are provided and are linked to the “Application” variable by the order provided. The two types of cost identified are:

- **Incremental (INCR)** – the differential equipment cost between a base technology and an energy efficient technology defined as:

Incremental cost (INCR) = Measure equipment cost - base case equipment cost

- **Installed (FULL)** – the full or installed cost of the measure including equipment, labor, overhead & profit (OH&P) defined as:

Installed cost (FULL) = measure equipment cost + labor including OH&P

1.1.3 Application and Cost Basis

The application and cost basis are defined for each measure. Specific program applications may justify different application and cost basis values. Typically, for a retrofit (RET) application where an existing technology is being displaced there is a labor component and

the cost basis is FULL or installed. An example is replacing an operational incandescent exit sign in an existing building with an LED exit sign.

Similarly, for ROB and NEW applications, where the choice is typically between a more and less efficient alternative, the cost basis is typically incremental (INCR). An example is installing a higher SEER AC unit at the end of the useful life of the existing unit.

FULL or installed cost typically uses the measure equipment cost of the technology, not an incremental cost. In most cases, there is no incremental cost. For example, occupancy sensors that are designated as retrofit (RET) applications are assumed to have a cost basis of FULL and use the cost of the sensor (measure equipment cost) plus the labor to install it. There is no incremental cost in this case because the baseline is the absence of a sensor or an existing conventional on/off switch that is being displaced.

Measure ID D03-940 for Point of use Water Heat will be used as an example of the mapping between the “Application” variable and the “Cost Basis” variable. When looking at the measure detail sheet for this measure (as illustrated in Figure 8), we see that the “Application” variable has the value “RET/ROB/NEW”. The “Cost Basis” variable has the value “FULL/INCR/INCR –same”. The first application value “RET” is mapped to the cost value “FULL”, the second “ROB” to “INCR”, and the third “NEW” to “INCR”. The “-same” means the energy and cost common units are the same.

1.1.4 Building Vintages

There are different building vintages for the residential single family, multifamily, mobile homes, and non residential building types. Where part of a vintage description applies to particular building type, it is reflected in the definition. The vintage categories are:

- Built before 1978
- Built between 1978 and 1992
- Built between 1993 and 2001
- Built between 2002 and 2005
- Built 2006 and later (measures as retrofit for non residential)
- Built 2006 and later (measures as new construction for nonresidential)
- Mobile homes built before 1976
- Mobile homes built between 1976 and 1994
- Mobile homes built between 1995 and 2005
- Mobile homes built 2006 and later

Single family and multifamily residential measures have the same vintage categories. Non residential vintage categories have a slight difference from residential vintage categories for the new vintage. When a non residential measure appears with a vintage “Built 2006 and

later (measures as retrofit for non residential)”, this means that the measure is assumed to apply to retrofit applications only in nonresidential. Similarly, when a non residential measure appears with a vintage “Built 2006 and later (measures as new construction for nonresidential)”, this means the measure is assumed to apply only to new construction in nonresidential. For residential measures, all vintages that indicate “Built 2006 and later...” apply to both new construction and retrofit as there is no distinction between these two cases.

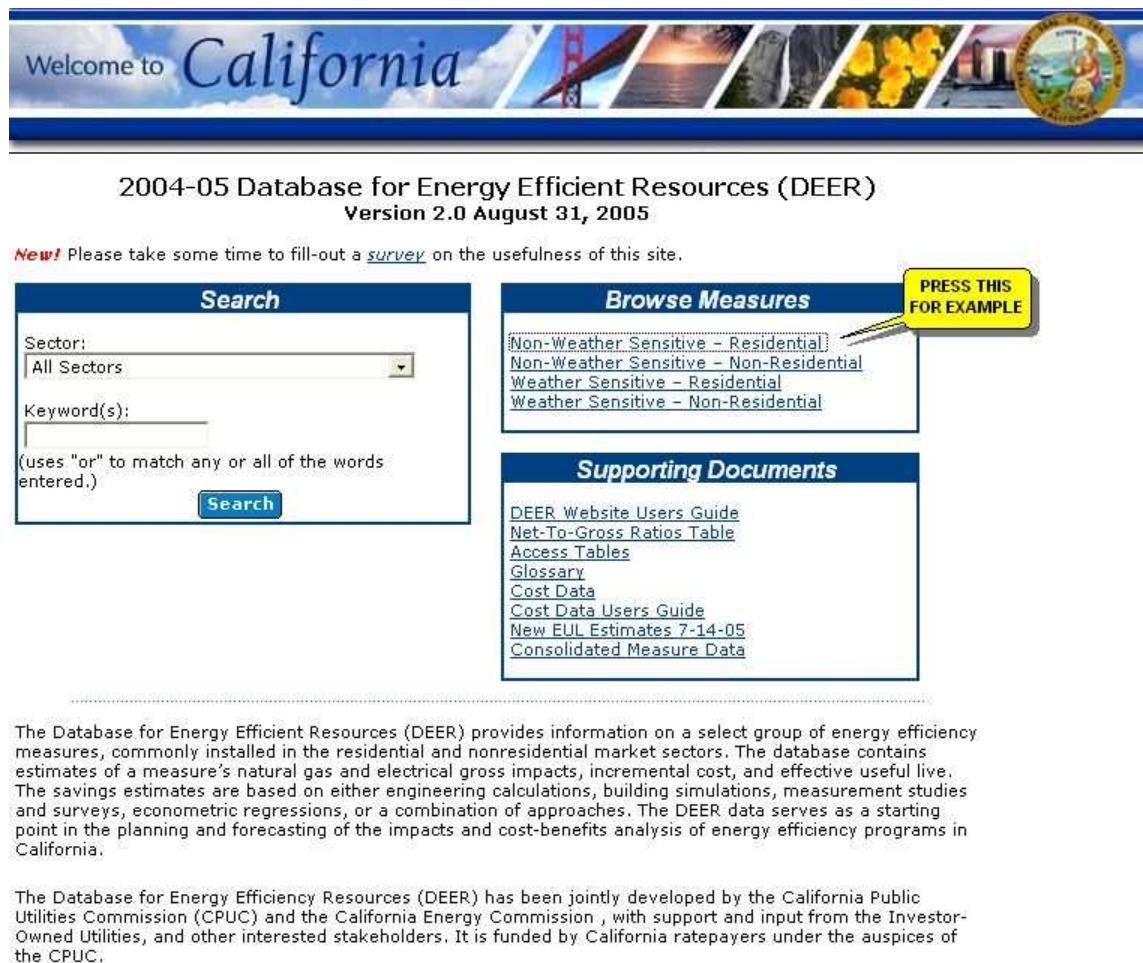
1.2 Website Navigation

The DEER homepage, as shown in Figure 1, has three main areas of operation:

- Browse Measures
- Supporting Documents
- Quick Search

The “Browse Measures” section is the most commonly used. Here, the data is divided into weather sensitive and non-weather sensitive measures as well as residential and non-residential. The “Supporting Documents” section provides a number of different documents that the user will find useful. “Quick Search” is generally used if a specific Run ID or Measure ID is known and the user wants to check it quickly. Keywords words can also be entered, such as “pool pumps” and all references to “pool pumps” will be listed, or portions of a Measure ID or Run ID such as “Evp” could be entered and all the evaporative cooler measures would be listed.

Figure 1: DEER Website Opening Webpage



1.2.1 Browse Measures

Most users will utilize this portion of the website to obtain measure specific information. The section is arranged into the four major categories of non-weather sensitive – residential, non-weather sensitive – non-residential, weather sensitive – residential, and weather sensitive - non-residential.

Within each of these four major categories, further filtering options are provided by technology category and sub-category. Table 1 through Table 4 identify the available categories and sub-categories for each of these four major categories.

Table 1: Residential – Weather Sensitive Categories and Sub Categories

Residential - Weather Sensitive	
Category	Sub-category
HVAC	Controls
HVAC	Equip
SHELL	Fenestration
SHELL	Insulation

Table 2: Residential – Non-Weather Sensitive Categories and Sub Categories

Residential - Non-weather Sensitive	
Category	Sub-category
CDR	Efficient Clothes Dryer
DHWR	Energy Star Clothes Washer
DHWR	Energy Star Dishwasher
DHWR	Faucet Aerators
DHWR	Heat Pump Water Heater
DHWR	High Efficiency Water Heater
DHWR	Low Flow Showerhead
DHWR	Pipe wrap
LTG	CFL LAMPs
POOL	Pool Pump
RREF	Energy Star Refrigerators
RREF	Freezer Recycling
RREF	Refrigerator Recycling

Table 3: Non-Residential – Weather Sensitive Categories and Sub Categories

Non-residential - Weather Sensitive	
Category	Sub-category
HVAC	Controls
HVAC	Equip
HVAC	HeatRej
HVAC	Insulation
LTG	Demand
RFRIG	Maintenance
SHELL	Daylighting
SHELL	Fenestration
SHELL	Shell

Table 4: Non-Residential – Non-Weather Sensitive Categories and Sub Categories

Non-residential - Non-weather Sensitive	
Category	Sub-category
AG	Greenhouse
AG	Irrigation
AG	Ventilation
AG	VFD
COOK	Fryer
COOK	Griddle
COOK	Holding Cabinet
COOK	Steamer
DHWR	Circulation Pump
DHWR	Point of Use
DHWR	Water Heater Tank
LTG	Ballast
LTG	CFL LAMPs
LTG	De-lamp
LTG	Exit Sign
LTG	Exterior Lighting
LTG	Four ft. Fluorescent
LTG	Metal Halide
LTG	Occupancy Sensor
LTG	Photocell
LTG	Timeclock
OTHR	MOTOR
OTHR	Vending Machine
PLUG	Copy Machine
SHW	Equip
SHW	Controls

Non-Weather Sensitive – Residential Sector Webpage

Navigation within each of the four major categories is the same. We will utilize the “Non-Weather Sensitive – Residential Sector” for our example queries to demonstrate the operation of this portion of the website. Figure 2 is a screen capture of the opening screen for this category of measures. The links provided on the right to “Related Programs” and “Related Links” are provided only for convenience and each link takes you to a website outside of DEER. They have no direct relationship to the values contained within DEER.

Within Figure 2, four measure categories are listed. These include:

- Interior Ambient & Task Lighting
- Refrigeration
- Hot Water
- Clothes Dryers
- Pools

Figure 2: Non-Weather Sensitive – Residential Sector Webpage



Non-Weather Sensitive – Residential Sector Screen with Hot Water Sub-Category List Webpage

The example query will utilize the drop down menu of sub-categories under the “Hot Water” category. This is illustrated within Figure 3. The sub-categories under the “Hot Water” category include the following:

- Energy Star dishwasher
- Heat pump water heater
- Energy Star clothes washer
- High efficiency water heater

- Pipe wrap
- Low flow showerhead
- Faucet aerators

Figure 3: Non-Weather Sensitive – Residential Sector Screen with Hot Water Sub-Category List Webpage



Non-Weather Sensitive – Residential Hot Water – Pipe Wrap Webpage

The “Pipe Wrap” sub-category will be utilized in this example query. After highlighting the “Pipe-Wrap” sub-category, a new screen appears that has all the “RunIDs” included within this sub-category. Figure 4 illustrates this new page of information. There are four important areas of interest on this page. The first is the short summary of measure information by “RunID”. The second is the area where further filtering can be done. The third identifies how you want your summary data sorted. The fourth is the link to downloading data.

Figure 4: Non-Weather Sensitive – Residential Hot Water – Pipe Wrap Webpage

[Home](#) > [Non-Weather Sensitive – Residential](#) > Hot Water

Non-Weather Sensitive – Residential Hot Water – Pipe Wrap

Sort by: Run ID **Order:** ☒ Ascending ☐ Descending

Filter By: You may further refine your search results using the filters below. Use the **Ctrl** or **Shift** keys to select multiple items within a filter.

Climate Zone: All Zones
 Arcata-1
 Santa Rosa-2

Savings Unit: All Units
 Household

Building Type: All Types
 Residential Multi-family
 Residential Single Family

Vintage: All Vintages
 No vintage distinction

Measures: 25 per page

Click the **Go** button to view sorted and filtered measures.

AREA OF IMPORTANCE #3

AREA OF IMPORTANCE #2

AREA OF IMPORTANCE #4

AREA OF IMPORTANCE #1

[Download Measures](#)

[Glossary](#)

Run ID	Measure ID	Name	Vintage	Building Type	Climate Zone	Common Unit	Above Code Electricity Savings (kWh/unit)	Above Code Peak Demand Electricity Impact (Watts/unit)	Above Code Natural Gas Savings (kBtu/unit)	Measure Equipment Cost (\$/unit)	Incremental Equipment Cost (\$/unit)	Installed Cost (\$/unit)
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Long Beach-6	Household		57.876	12.733	666.400	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential Santa Rosa-2	Household		133.264	29.318	750.200	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential China Lake-14	Household		120.737	26.562	897.800	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Fresno-13	Household		63.015	13.863	806.300	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential Mt. Shasta-16	Household		133.264	29.318	750.200	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential El Centro-15	Household		120.737	26.562	897.800	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Santa Rosa-2	Household		69.554	15.302	673.700	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Red Bluff-11	Household		63.015	13.863	806.300	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential El Toro-8	Household		57.876	12.733	666.400	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential Long Beach-6	Household		110.890	24.396	742.000	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Arcata-1	Household		69.554	15.302	673.700	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Multi-family	Residential Burbank-9	Household		63.015	13.863	806.300	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction Family pipe wrap	No vintage Single Family	Residential Oakland-3	Household		133.264	29.318	750.200	\$0.369	\$0.000	\$2.809	
RSFM01AVWHPwr D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage Single Family	Residential Red Bluff-11	Household		120.737	26.562	897.800	\$0.369	\$0.000	\$2.809	

INDICATES HOW MANY MEASURES

INDICATES HOW MANY PAGES OF MEASURES

32 measures in 2 pages were found.

Result Page: [1](#) [2](#) [Next](#)

The measure information provided in the first area of importance is only a short summary of the measure information available at the “RunID” level. Values for thirteen different variables are provided for each “RunID” under this sub-category. These variables include:

- Run ID
- Measure ID
- Name (Measure Name)
- Vintage
- Climate Zone
- Common Unit
- Above Code Electricity Savings
- Above Code Peak Demand Savings
- Above Code Natural Gas Savings
- Measure Equipment Cost
- Incremental Equipment Cost
- Installed Cost

Additional measure level information (such as the customer based savings and EUL information) is provided in the detailed information sheets, which will be covered in the Section “Detailed Measure Information” later in this Guide. At the bottom of this area of importance is an indicator of how many measures are included within this summary list of measures and over how many pages the data exists. In this example, there are 32 “Pipe Wrap” measures with summary information provided over two web pages of data.

The second area of importance provides options for further measure filtering. Further filtering options are provided for the following:

- Climate Zone
- Savings Unit
- Building Type
- Vintage

Only the filtering options available for this particular sub-category of measures will be visible.

The third area of importance is relatively minor. Within this area, the user can indicate how they would like the summary data presented in the first area of importance is sorted. The

summary data may be sorted by any of the 13 variables presented within the summary areas. The order within the sorting category can be ascending or descending.

The fourth and final area of importance is the link to “Download Measures” as well as a link to show the database “Glossary”. These links are on the far right hand side of the page.

Pressing the “Glossary” link reveals the database glossary. The upper half of this webpage is illustrated in Figure 5.

“Download Measures” is a very useful link in that all of the detailed data for all the measures included in the filtered summary portion of this screen (area of importance 1) can be downloaded as an Excel spreadsheet. Figure 6 illustrates what the screen looks like when the link “Download Data” is pressed.

Figure 5: “Glossary” Webpage

Glossary

DEER Glossary
(3/29/2005)

[RunID](#) | [Measure ID](#) | [Measure Name](#) | [Measure Characteristics](#) | [Measure Abbreviation](#)
[Sector](#) | [Building Type](#) | [Vintage](#) | [Climate Zone](#) | [Common Unit](#) | [Category](#) | [Subcategory](#)
[End-Use Fuel Type](#) | [Base Description](#) | [Code Base Description](#) | [Floor Area](#) | [TbaseE](#)
[TbaseP](#) | [TbaseG](#) | [PEbaseE](#) | [PEbaseG](#) | [Eimpact](#) | [Gimpact](#) | [Pimpact](#) | [TCbaseE](#) | [TCbaseP](#)
[TCbaseG](#) | [PECbaseE](#) | [PECbaseG](#) | [ECimpact](#) | [GCimpact](#) | [PCimpact](#) | [Life](#) | [EquipCost](#)
[LaborCost](#) | [BaseCost](#) | [IncEquipCost](#) | [InstalledCost](#) | [Application](#) | [Volume](#) | [Cost Basis](#)
[Other Ref 1](#) | [Other Ref 2](#) | [Other Ref 3](#)

1. Run ID: String variable of fixed length of 13 with the format ABBB1122CCCC where:

- A = Sector Code. 'R' = Residential and 'C' = Non-Residential
- BBB = Building type abbreviation (see codes under BuildingType)
- 11 = Climate zone (see codes under climate zone)
- 22 = Vintage (see codes under Vintage)
- CCCC = Measure abbreviation (refer to table below)

2. Measure ID: String variable of fixed length of 7 (refer to table below). (example: D03-001)

- First three characters indicate the measure is from the 2003 DEER update “D03”
- Fourth character is a “-”
- Last three characters are a numerical sequence starting with “001” and conceivably ending with “999”. Commercial weather sensitive starts at “001”, Grocery with “200”, Refrigerated Warehouse “300”, Residential weather sensitive with “400”, Non-weather sensitive lighting with “800”, and all remaining Non-weather sensitive “900”.

4. Measure Characteristics: String variable describing more detail about the measure.

5. MeaAbbr: Measure abbreviation. String variable of length 5 that incorporates part of the measure name. Used to help develop the run ID.

6. Sector: String variable of fixed length 1. "R" for residential, "C" for non-residential.

7. Building Type: three digit abbreviation letter code for building type: ([top](#))

- ALC = All Commercial
- BCR = Both Residential and Commercial
- ASM = Assembly
- EPR = Education - Primary School
- ESE = Education - Secondary School
- ECC = Education - Community College
- EUN = Education - University
- GRO = Grocery
- HSP = Health/Medical - Hospital
- NRS = Health/Medical - Clinic
- HTL = Lodging - Hotel
- MTL = Lodging - Motel
- GST = Lodging - Guest Rooms
- SMO = Residential Mobile Home - Single Wide
- DMO = Residential Mobile Home - Double Wide
- MFM = Residential Multi-family
- MBT = Manufacturing - Bio-Tech
- MLI = Manufacturing - Light Industry
- OFL = Office - Large
- OFS = Office - Small
- RES = All Residential
- RSD = Restaurant - Sit Down
- RFF = Restaurant - Fast Food
- RT3 = Retail - 3 Story Large
- RTL = Retail - Single Story large
- RTS = Retail - Small
- SFM = Residential Single Family
- SCN = Storage - Conditioned
- SUN = Storage - Unconditioned
- WRF = Storage - Refrigerated
- S20 = SIC 20 Food & Kindred Products
- S26 = SIC 26 Paper & Allied Products

AND CONTINUES....

Figure 6: "Download Measures" Webpage



Revealing Detailed Measure Information

At this point, the user has the option to press the measure specific link for any of the measures listed (the highlighted measure name under the “Name” column. In the example, it is “Pipe Wrap”) to obtain detailed measure information or to filter the measures further. Figure 7 illustrates the results of selecting climate zone “China Lake-14” and building type “Residential Single Family” as the filtering agents. The results in the summary section is a single measure with the Run ID of “RSFM14AVWHPwr”.

Figure 7: Non-Weather Sensitive – Residential Hot Water – Pipe Wrap Webpage Filtered by CZ and Building Type

Welcome to California

Home > Non-Weather Sensitive – Residential > Hot Water

Non-Weather Sensitive – Residential Hot Water – Pipe Wrap

Sort by: Run ID Order: ☒ Ascending ☐ Descending

Filter By: You may further refine your search results using the filters below. Use the **Ctrl** or **Shift** keys to select multiple items within a filter.

Climate Zone: All Zones
Arcata-1
Santa Rosa-2

Savings Unit: All Units
Household

Building Type: All Types
Residential Multi-family
Residential Single Family

Vintage: All Vintages
No vintage distinction

Measures: 25 per page

[Download Measures](#)

[Glossary](#)

Click the **Go** button to view sorted and filtered measures.

Run ID	Measure ID	Name	Vintage	Building Type	Climate Zone	Common Unit	Above Code Electricity Savings (kWh/unit)	Above Code Peak Demand Electricity Impact (Watts/unit)	Above Code Natural Gas Savings (kBtu/unit)	Measure Equipment Cost (\$/unit)	Incremental Equipment Cost (\$/unit)	Installed Cost (\$/unit)
RSFM14AVWHPwr	D03-936	Pipe Wrap Pipe wrap Replaces: No distinction family pipe wrap	No vintage	Residential Multi-family	Long Beach-6	Household	57.876	12.733	666,400	\$0.369	\$0.000	\$2.809

Pressing the measure detail link “Pipe Wrap” under the “Name” column reveals the next webpage, which is the detailed information about this particular measure. This detailed information is illustrated in Figure 8 for Run ID “RSFM14AVWHPwr”.

The information available on this detailed page is arranged into blocks for ease of use. Block 1, the top block, includes basic measure, building, climate, fuel, and energy common unit information. It should be noted that the “Number of Common Units” identifies how many of the units are in the building.


Block two includes all of the “Customer” based variable information (see Section 1.1.1 for a discussion on “Customer” vs. “Code”). This includes identification of the base technology, baseline energy use and “Customer” based measure impacts.

Block three contains the same type of information as Block two, but for the “Code” based variables. “Code” based information is provided on the base technology, baseline energy use and “Code” based measure impacts.

Block four includes cost information (see Section 1.1.2 and 1.1.3 for a discussion of the cost information). Data is provided on measure application, cost basis, cost common units (if different from energy common units) and various measure cost components.


The last variable show is set off by itself at the bottom of the list of data. It is the value for measure effective useful life. At the bottom of the page is a listing of any specific references that may be appropriate for this measure (none are listed for this example).

Figure 8: Detailed Measure Information for Run ID “RSFM14AVWHPwr”



[Home](#) > [Non-Weather Sensitive - Residential](#) > [Pipe Wrap](#) > Pipe Wrap

Pipe Wrap
[Glossary](#)

 [Printer-friendly page...](#)

RunID	RMFM01AVWHPwr
MeasureID	D03-936
Measure Name	Pipe Wrap
Characteristics	Pipe wrap
Building Type	MFM
Floor Area (sq ft)	0.000
Vintage	No vintage
Climate Zone	Arcata
Climate Zone Code	01
Fuel Type Name	Both electricity & natural gas
Common Unit Name	Household
Number of Common Units	1.000

Customer Base Description	No pipe wrap
Customer Baseline Electric Usage (kWh/unit)	0.000
Customer Baseline Peak Demand (Watts/unit)	0.000
Customer Baseline Natural Gas Usage (kBtu/unit)	0.000
Customer Primary End-Use Electric Usage (kWh/unit)	0.000
Customer Primary End-Use Natural Gas Usage (kBtu/unit)	0.000
Customer Electricity Savings (kWh/unit)	69.554
Customer Natural Gas Savings (kBtu/unit)	673.700
Customer Peak Demand Electricity Impact (Watts/unit)	15.302


Code BaseDescription	
Code Baseline Electric Usage (kWh/unit)	0.000
Code Baseline Peak Demand (Watts/unit)	0.000
Code Baseline Natural Gas Usage(kBtu/unit)	0.000
Code Baseline End-Use Electric Usage (kWh/unit)	0.000
Customer Primary End-Use Electric Usage (kWh/unit)	0.000
Customer Primary End-Use Natural Gas Usage (kBtu/unit)	0.000
Customer Electricity Savings (kWh/unit)	69.554
Customer Natural Gas Savings (kBtu/unit)	673.700
Customer Peak Demand Electricity Impact (Watts/unit)	15.302

Code BaseDescription	
Code Baseline Electric Usage (kWh/unit)	0.000
Code Baseline Peak Demand (Watts/unit)	0.000
Code Baseline Natural Gas Usage(kBtu/unit)	0.000
Code Baseline End-Use Electric Usage (kWh/unit)	0.000
Code Baseline End-Use Natural Gas Usage(kBtu/unit)	0.000
Above Code Electricity Savings (kWh/unit)	69.554
Above Code Natural Gas Savings (kBtu/unit)	673.700
Above Code Peak Demand Electricity Impact (Watts/unit)	15.302

Application	RET/NEW
Cost Basis	FULL/FULL -LinPft
Equipment Cost (\$/unit)	\$0.369
Base Equipment Cost (\$/unit)	
Incremental Equipment Cost(\$/unit)	\$0.000
Labor Cost (\$/unit)	\$2.440
Installed Cost(\$/unit)	\$2.809

EUL (years)	15.0
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1.2.2 Supporting Documents

Going back to the opening webpage (as illustrated in Figure 1), “Supporting Documents” is the second are of operation. Provided here are links to spreadsheets and documents that are directly related to the DEER database and program planning. Included are:

- DEER Website User’s Guide
- Net-To-Gross Ratios Table
- Access Tables
- Glossary
- Cost Data
- Cost Data Users Guide
- Consolidated Measure Data
- New EUL Estimates 7-14-05

The “DEER Website User’s Guide” refers to this document.

The “Net-To-Gross Ratios Table” provides net-to-gross ratios by program. They are directly taken from the “Energy Efficiency Policy Manual v2”, prepared by the California Public Utilities Commission, Energy Division and dated August, 2003.

The “Access Tables” are a very valuable download. This link allows the user to download the entire DEER database in Access. The file is called DEER.mdb.

The “Glossary” link provides the user access to a glossary of each variable within DEER. This information is very useful in gaining an understanding of the database.

The “Cost Data” link and its related “Cost Data Users Guide” link were developed and provided by Summit Blue Consulting, who performed the separate update of the cost portion of the DEER database. The cost data that is include with the measure impact information in DEER is specific to the measure as modeled or measure as reported by their common units of measure. Often, the DEER reported data represents an average across several different related measures. For example, a SEER 14 packaged A/C unit comes in different tonnage sizes, each with its own unique cost. The DEER reported cost is based on an average cost per ton for SEER 14 units. However, program planners may want specific cost information by size of unit. This more detailed cost information is available in the “Cost Data” spreadsheet from Summit Blue. The corresponding “Cost Data Users Guide” provides guidance in how to use and interpret the data.

The “Consolidated Measure Data” link provides another very useful source of information. DEER has within it over 130,000 unique records however, much of the information that is useful to planners is the same at the measure ID level of which there are about 360. Effective Useful Life (EUL), technology common units, and technology cost data is generally unique only to the measure ID level and repeated for each of the variations by building type and climate zone at the Run ID level. Therefore, the ‘Consolidated Measure Data” file was developed to provide a succinct source for this more general, measure specific information.

The variables included in this file are as follows:

- MeasureID
- Measure Name
- Measure Description
- Customer Baseline
- Code Baseline
- Energy Common Units
- Energy Common Unit Code
- Cost Common Units
- Cost Common Unit Code
- EUL
- EUL Source

Figure 9 illustrates a portion of the “Consolidated Measure Data” file. The variables listed above are arranged horizontally along line 5. The information is provided in five tables within the spreadsheet, as identified by the tabs at the bottom of Figure 9. These tabs are:

- Refrig – nonresidential refrigeration measures
- Wea_Sen-NonRes – nonresidential weather sensitive measures
- Wea_Sen-Res – residential weather sensitive measures
- Non-Weath_Sen – non weather sensitive measures
- CFL – compact fluorescent lamps

In addition to these five data tables, an additional table, “Sources”, is provided. This table list the sources used for the measures by source reference number. Only the EUL source is identified within the “Consolidated Measure Data” file. The other sources are referenced in the DEER as a whole with the sources identified at the bottom of the detailed measure information sheet. Figure 8 is a copy of the detailed measure information sheet, but in this particular instance, no outside sources are identified for the measure “Pipe Wrap”.

Figure 9: Consolidated Measure Spreadsheet

	A	B	C	D
1		DEER 2005		
2		Nonresidential Refrigeration Measures List		
3				
4				
5		MeasureID	Measure Name	Measure Description
6		D03-201	Retrocommissioning	Standard prototype air-cooled multiplex system w/extensive refrigeration equipment maintenance.
7		D03-202	High Efficiency Walk-in Fan Motors	Substitute high efficiency motors for standard efficiency
8		D03-203	High Efficiency Display Fan Motors	Substitute high efficiency motors for standard efficiency
9		D03-204	Heat Recovery from Central Refrigeration System	Adds an 85°F holdback valve, active only when needed
10		D03-205	Night Covers for Display Cases (medium temp)	Cover open MT cases between 1-5 a.m.
11		D03-206	Medium Temp Glass Doors (open display cases)	Retrofit glass doors on open MT cases
12		D03-207	New Medium Temp Refrig Display Case with Doors	Replace open MT case with new case with doors
13		D03-208	Auto-Closers on Main Cooler Doors	Install automatic door closer on walk-in cooler doors
14		D03-209	Auto-Closers on Main Freezer Doors	Install automatic door closer on walk-in freezer doors
15		D03-210	Evaporator Fan Control on Walk-in Coolers & Freezers	Cycle fan off with thermostat; duty cycle occasionally when off
16		D03-211	Air-Cooled Condenser to Evaporative Condenser	Replace air-cooled condenser with evaporative condenser
17		D03-212	Energy Efficient Air-Cooled Condenser	Upgrade from 53 Btu/Watt @ 10°F TD to 84 Btu/Watt
18		D03-213	Energy Efficient Evap-Cooled Condenser	Reduce design SCT by ~5°F and improve efficiency

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The EULs that are included within the “Consolidated Measure Data” file come from a number of sources. However, most came from a report completed by SERA, Inc. and this report is available through the “New EUL Estimates 7-14-05” link.